

Notice of Allowability

Application No.

09/928,673

Examiner

Brian Ensey

Applicant(s)

MILLER, THOMAS E.

Art Unit

2646

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 10/28/05.
2. ☒ The allowed claim(s) is/are 1-38.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

DETAILED ACTION

The following is an examiner's statement of reasons for allowance: The present invention is directed to an electroacoustic transducer. It is well known that all coils formed by an insulated conductor have a naturally occurring parasitic capacitance. Parasitic capacitance is undesirable in many instances because it produces increased impedance in the coil and causes increased power consumption. Independent claim 1 identifies the uniquely distinct feature of a receiver for use in a hearing aid having a receiver coil wherein the winding has a naturally occurring parasitic capacitance between individual turns of the coil and utilizes a predetermined winding pattern and a predetermined winding pitch for reducing this parasitic capacitance. Independent claim 28 identifies the uniquely distinct feature of a method for reducing parasitic capacitance exhibited by a receiver coil by providing a predetermined winding pattern of a conductive element including a plurality of successive turns forming a plurality of successive winding layers and a predetermined winding pitch which reduces battery current flow and increases battery life. Independent claim 36 identifies the uniquely distinct feature of a receiver coil having a plurality of individual turns having a winding pitch wherein a space between individual turns is between three times and six times the thickness of the wire for reducing parasitic capacitance. Independent claim 37 identifies the uniquely distinct feature of a receiver coil having a plurality of electrically connected winding modules wherein a gap between adjacent winding modules is less than 5% of the width of one of the plurality of winding modules. Independent claim 38 identifies the uniquely distinct feature of a receiver coil having an end portion formed by a plurality of individual turns originating at a point adjacent to the tunnel through the coil and

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expanding radially to form an isosceles triangle shaped boundary layer. The closest prior art, Geschiere et al.(US 6075870) teaches an electroacoustic transducer with improved shock resistance; Doschek (US 3873784) teaches varying the space between the windings of an acoustic transducer to ensure symmetrical force is applied to the electrical conductor of the coil; Sharma et al. (US 5812598) teaches a receiver coil for a hearing aid driven with a switching signal and having a carrier frequency; Kaiserwerth et al. (US 3982814) teaches a choke coil having two windings with a different number of turns and pitch to reduce the effects of parasitic capacitance. The prior art fails to anticipate or render the independent claims obvious.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Ensey whose telephone number is 571-272-7496. The examiner can normally be reached on Monday - Friday 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or faxed to:


(571) 273-8300, for formal communications intended for entry and for informal or draft communications, please label "PROPOSED" or "DRAFT".

Hand-delivered responses should be brought to: Customer Service Window, Randolph Building, 401 Dulany Street, Arlington, VA 22314

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BKE
November 10, 2005



SINH TRAN
SUPERVISORY PATENT EXAMINER